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FGFR1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7636a

Product Information

Application	FC, WB, IHC-P, IF, E
Primary Accession	P11362
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	91868
Antigen Region	19-48

Additional Information

Gene ID	2260
Other Names	Fibroblast growth factor receptor 1, FGFR-1, Basic fibroblast growth factor receptor 1, BFGFR, bFGF-R-1, Fms-like tyrosine kinase 2, FLT-2, N-sam, Proto-oncogene c-Fgr, CD331, FGFR1, BFGFR, CEK, FGFBR, FLG, FLT2, HBGFR
Target/Specificity	This FGFR1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 19~48 amino acids from the N-terminal region of human FGFR1.
Dilution	FC~~1:10~50 WB~~1:1000 IHC-P~~1:100~500 IF~~1:50~100 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	FGFR1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	FGFR1
Synonyms	BFGFR, CEK, FGFBR, FLG, FLT2, HBGFR
Function	Tyrosine-protein kinase that acts as a cell-surface receptor for fibroblast

	growth factors and plays an essential role in the regulation of embryonic development, cell proliferation, differentiation and migration. Required for normal mesoderm patterning and correct axial organization during embryonic development, normal skeletogenesis and normal development of the gonadotropin-releasing hormone (GnRH) neuronal system. Phosphorylates PLCG1, FRS2, GAB1 and SHB. Ligand binding leads to the activation of several signaling cascades. Activation of PLCG1 leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate. Phosphorylation of FRS2 triggers recruitment of GRB2, GAB1, PIK3R1 and SOS1, and mediates activation of RAS, MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling pathway, as well as of the AKT1 signaling pathway. Promotes phosphorylation of SHC1, STAT1 and PTPN11/SHP2. In the nucleus, enhances RPS6KA1 and CREB1 activity and contributes to the regulation of transcription. FGFR1 signaling is down-regulated by IL17RD/SEF, and by FGFR1 ubiquitination, internalization and degradation.
Cellular Location	Cell membrane; Single-pass type I membrane protein. Nucleus. Cytoplasm, cytosol. Cytoplasmic vesicle. Note=After ligand binding, both receptor and ligand are rapidly internalized. Can translocate to the nucleus after internalization, or by translocation from the endoplasmic reticulum or Golgi apparatus to the cytosol, and from there to the nucleus
Tissue Location	Detected in astrocytoma, neuroblastoma and adrenal cortex cell lines. Some isoforms are detected in foreskin fibroblast cell lines, however isoform 17, isoform 18 and isoform 19 are not detected in these cells.

Background

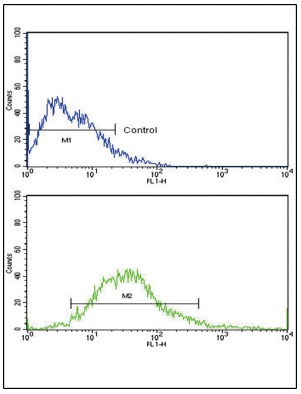
FGFR1 is a member of the fibroblast growth factor receptor family, where amino acid sequence is highly conserved between members and throughout evolution. FGFR family members differ from one another in their ligand affinities and tissue distribution. A full-length representative protein consists of an extracellular region, composed of three immunoglobulin-like domains, a single hydrophobic membrane-spanning segment and a cytoplasmic tyrosine kinase domain. The extracellular portion of the protein interacts with fibroblast growth factors, setting in motion a cascade of downstream signals, ultimately influencing mitogenesis and differentiation. This particular family member binds both acidic and basic fibroblast growth factors and is involved in limb induction. Mutations in this gene can lead to Pfeiffer syndrome and Jackson-Weiss syndrome. The genomic organization of the gene is very similar to family members 2-4, encompassing 19 exons that are subject to complex alternative splicing, which allows for structural, tissue expression and ligand affinity variations among the isoforms.

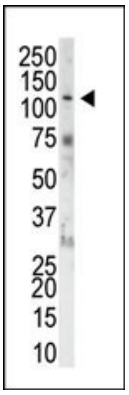
References

Jiao, J., et al., Arch. Biochem. Biophys. 410(2):187-200 (2003).
Fu, L., et al., J. Comp. Neurol. 462(2):265-273 (2003).
Lundin, L., et al., Exp. Cell Res. 287(1):190-198 (2003).
Kiselyov, V.V., et al., Structure (Camb.) 11(6):691-701 (2003).
Baumann, H., et al., J. Biol. Chem. 278(18):16198-16208 (2003).

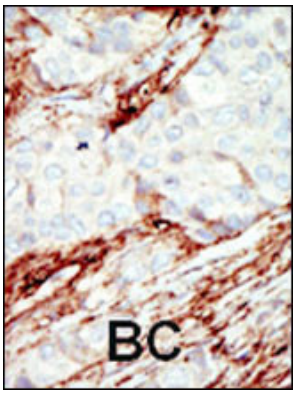
Images

Flow cytometric analysis of MCF-7 cells using FGFR1 Antibody (N-term) (bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

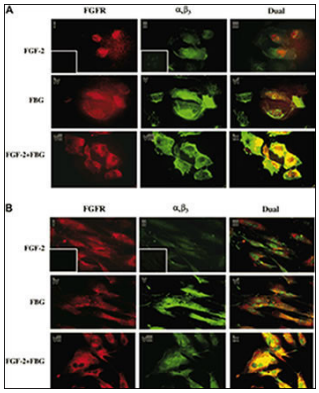




The anti-FGFR1 Pab (Cat. #AP7636a) is used in Western blot to detect FGFR1 in NIH-3T3 cell lysate.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Colocalization of A1B3 and FGFR1 using IF. Confluent ECs (A) or HFFs (B) were treated with or without 100 ng/mL FGF-2 in the presence or absence of 10/mL fibrinogen. After 1 hour, cells were washed and fixed with 3.7% formaldehyde and stained using 10/mL FGFR1 and 7E3 antibody. FGFR is visualized as red fluorescence (i,iv,vii), A1B3 is visualized as green fluorescence (ii,v,viii), and colocalization of FGF-2 and fibrinogen receptors is shown as yellow fluorescence (iii,vi,ix). Insets represent the background staining for red (i) and green (ii) fluorescence. Bars represent 25 .

Citations

- Autologous culture method improves retention of tumors' native properties
- Fibrinogen binding potentiates FGF-2 but not VEGF induced expression of u-PA, u-PAR, and PAI-1 in endothelial cells.
- Induction of stem cell gene expression in adult human fibroblasts without transgenes.
- Stimulation of endothelial cell proliferation by FGF-2 in the presence of fibrinogen requires alphavbeta3.
- [Expeditions to high altitudes--what can we learn from them?].
- L1CAM stimulates glioma cell motility and proliferation through the fibroblast growth factor receptor.

- A tissue-engineered model of fetal distal lung tissue.
- Homeobox family Hoxc localization during murine palate formation.
- Basic fibroblast growth factor in the bone microenvironment enhances cell motility and invasion of Ewing\'s sarcoma family of tumours by activating the FGFR1-PI3K-Rac1 pathway.